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FEL BOVINUM

AS A

Therapeutic Agent.

BY

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*FEL BOVINUM AS A THERAPEUTIC
AGENT.*

By D. H. BERGEY, M. D.

The employment of ox-gall in medicine is not of recent date. It was in general use more than fifty years ago, and continuously, to a greater or less extent, ever since. Writers of fifty years ago have more to say with regard to its value as a therapeutic agent than those of any other period, with the exception of the last three or four years.

PAREIRA says¹ "It was formerly employed as a tonic, and it has been recently re-introduced by a few practitioners in dyspeptic cases and biliary derangement." WOOD and BACHE² speak of its use in cases of deficient biliary secretion; also of its use as a tonic and laxative. DUNGLISON³ refers to its use as a "detergent,

¹) Elements of Materia Medica and Therapeutics, 3d ed., 1854, p. 1169.

²) National Dispensatory, 1849, p. 1292.

³) Medical Dictionary, 1860.



anti-otalgic and emmenagogue," as well as its reputed power of facilitating labor. "It has also been given as a bitter stomachic and anthelmintic, as a tonic and laxative in cases of deficiency of biliary secretion." NAPHEY⁴ says, "when there is torpidity of the liver and deficiency of the biliary secretion it may prove useful by supplying the deficiency." FARQUARSON⁵ says, "Bile is well known to act as a laxative, to aid the digestion of fatty and amylaceous constituents of our diet, and to prevent the decomposition of food within the intestines." He speaks of its use in dyspepsia and chronic diarrhea. H. V. SEVERINGER⁶ gives the chemical constituents of bile, and speaks of its use in medicine. The U. S. Dispensatory⁷ says, "Along with pancreatic juice, bile neutralizes the acidity of the chyme, and emulsifies fatty matters. The excess of it tends to quicken the peristaltic movements of the bowels. Profuse secretion of it produces diarrhea, deficient secretion constipation. It prevents fermentative and pu-

⁴⁾ Modern Medical Therapeutics, 1878, p. 316.

⁵⁾ Guide to Therapeutics and Materia Medica, 1882, p. 457.

⁶⁾ Dictionary of Pharmaceutical Science, 1882.

⁷⁾ U. S. Dispensatory, 1880.

trejective decomposition of the food, aids in the solution of fatty matters, promotes peristaltic action of the intestines, and in sufficient dose purges." It speaks of its use in habitual constipation, in atony of the bowels, the bowel not being so apt to become torpid as after purgatives; in dyspeptic derangements caused by engorged colon and consequent compression of the liver; in jaundice from catarrh of the bile ducts; as a vermifuge for *lumbricoides*; in glandular hypertrophies as a topical agent. WARING⁸ says it is "not a purgative, but acts simply as a solvent of materials contained in the stomach and intestinal canal, producing no excitement to propel, but, by liquifying the mass, facilitates its excretion." He also speaks of its therapeutic uses in dyspepsia and constipation attended by torpor of the liver, when the stools indicate deficiency of biliary secretion; in jaundice with obstruction; in functional disorder of the liver; mesenteric affections; hypochondriasis with dyspepsia.

PORTER⁹ speaks at length of the action of bile in the human economy. First, its

⁸) *Practical Therapeutics*, 4th ed., 1886, p. 265.

⁹) *The Medical News*, January 10 and 24, and February 28, 1891.

emulsifying action upon the neutral fats in our food; the action of converting the unconverted starch into glucose; its stimulant action as a whole in producing peristalsis of the intestines, thus tending to favor absorption and prevent constipation; the stimulant action of the bile acids upon the small muscles in the villi of the intestines, so that by the contraction of these muscles the contents of the lymph-spaces are carried toward the larger lymphatics, leaving those of the villi in a position to absorb more; its valuable function in accelerating the osmosis of nutrient particles, and in stimulating the onward movement of the contents of the intestines; its anti-fermentative action, whereby it may be looked upon as being "Nature's chief antiseptic;" and lastly, its undoubted office to maintain the full nutrition of the body by maintaining active digestion and assimilation.

Sufficient has already been said as to the value and uses of ox-gall as a therapeutic agent to preclude the need of any apology for again calling the attention of physicians to its claims for place in their armamentarium.

Ox-gall is a viscid fluid, of greenish or greenish-yellow color, a peculiar nauseous

odor, and a bitter taste. The U. S. Dispensatory, 1880, gives the following constituents: Bilirubin, $C_{16}H_{18}N_2O_3$; bilifuscin, a dark, olive-brown powder; biliprasin, a greenish-black powder; bilihumin, a blackish powder; biliverdin (oxidation of bilirubin), a dark-green powder; cholestrin, $C_{26}H_{44}O$. It also contains 3 per cent. of glycocholic acid, $C_{26}H_{43}NO_6$, and 3 per cent. of taurocholic acid, $C_{26}H_{45}NSO_7$. Its composition is exceedingly complex, and it is impossible to determine the exact physiological properties of each of the constituents.

As a laxative, in normal conditions of the intestinal tract, its action is unquestioned. Excessive secretions of bile are invariably followed by copious movements of the bowels with, frequently, severe gripping pains; while deficiency of secretion is invariably followed by obstinate constipation, which is only fully relieved by establishing a free flow of bile. That oxgall has practically identical effects in the human system has been repeatedly demonstrated. The consensus of opinion on this point is so general that further facts to prove it are uncalled for.

Bearing in mind the physiological offices of bile we have a direct indication of the

functions which we may expect this medicament to perform, and the pathological conditions under which we may hope to obtain satisfactory results from its use. In all those conditions where we have a deficient flow of bile, whatever the cause, we may confidently expect to alleviate the more distressing symptoms, if not lay the foundations for speedy and complete recovery. In constipation, especially the chronic form with atony of the colon, it is of undoubted value in many cases. It acts as a stomachic and stimulates the appetite; it assists in dissolving and emulsifying the fatty materials of the food; it increases the peristaltic movements of the intestines, and thus facilitates the excretion of effete matters; and it assists in the osmosis of the nutrient particles of the food, and thereby greatly accelerates their assimilation. In catarrhal conditions of the intestinal tract, and especially in colitis and dysentery, it has distinct and important functions. It not only facilitates the solution of the food and accelerates the onward movement of excretory products, but it acts as an anti-putrefactive agent, and thus prevents the deleterious effect of the action of micro-organisms in this condition. In fecal impaction it is a powerful

agent in the relief of flatulence, and in stimulating the movements of the rectum and colon to expel the impacted feces. In torpidity of the liver and jaundice from obstruction, its influence as a solvent makes it no uncertain agent. For more than a year past I have repeatedly made use of it in cases of this nature, of which an unusual number have been under my treatment since the late epidemic of influenza, and the relief has been marked in a large percentage of the cases. They present themselves with more or less marked constipation, sometimes alternating with diarrhea of several hours duration, and accompanied with severe, griping pains; many have marked jaundice, and all have impaired or depraved appetite. In these cases ox-gall has had a good influence in arousing the torpid liver, and in dissolving the bile-salts lodged within the tissues, and in facilitating their excretion.

The value of this remedial agent is not, however, to be overrated. The indications for its use must be positive. It must be accompanied with intelligent hygienic measures. Many other drugs can be advantageously combined with it. In the diseases of the intestinal tract pancreatic juice is sometimes as strongly indicated

as ox-gall, and is therefore equally necessary. In chronic constipation strychnine may be combined with it with good effect, and it is well to have the intestinal tract unloaded with some active cathartic. In torpidity of the liver one of the salts of mercury is equally useful when thus combined with it.

It is preferable, on account of its bitter taste and nauseous odor, to administer it in capsules or in pill form. I have, however, frequently administered it in solution, disguised as much as possible, without any complaint from my patients. It is best, for continuous use, to administer ox-gall in doses of two grains; though as much as five and even ten grains may be given in some cases without the laxative effect becoming too pronounced. It is preferable to administer it a short time before meals, in order that it may readily pass the pylorus into the intestine.

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